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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,516	03/25/2005	Bernard Deckers	2497/104	2735
2101 7590 03/21/2008 BROMBERG & SUNSTEIN LLP 125 SUMMER STREET BOSTON, MA 02110-1618				
EXAMINER				
UHLENHAKE, JASON S				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/506,516

**Applicant(s)**

DECKERS ET AL.

**Examiner**

JASON S. UHLENHAKE

**Art Unit**

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-5, 9-10, 14-15 are rejected under 35 U.S.C. 102 (b) as being anticipated by Kashiwazaki et al (U.S. Pub. 2002/0041317)

#### ***Kashiwazaki discloses:***

- ***regarding claims 1, 9***, a progressive dot printing ink-jet process comprising: applying a first ink drop to a substrate; and applying a second ink drop on to the first ink drop without intermediate solidification of the first ink drop (Figures 10-13; Paragraphs 0123-0126). Further regarding claims 1 and 9 first and second ink drops have a different viscosity, surface tension or curing speed, since each ink color has its own unique viscosity, as shown by Jones (WO 02/28650) (Paragraphs 0003-0004, 0027).
- ***regarding claims 4, 15***, wherein the first and second ink drops are different colors (Paragraphs 0125-0126)
- ***regarding claims 5, 10***, wherein the ink drops are selected from cyan, magenta, yellow and black (Paragraph 0112)
- ***regarding claim 14***, an ink dispenser holding a set of ink jet inks (Paragraph 0121)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) as modified by Jones (WO 02/28650) as applied to claim 1 above, and further in view Cleary et al (U.S. Pat. 6,457,823)

***Kashiwazaki discloses:***

- ***regarding claim 2***, applying ink drops without intermediate solidification of the first ink drops (Figures 10-13; Paragraphs 0123-0126)

***Kashiwazaki does not disclose expressly the following:***

- ***regarding claim 2***, wherein subsequent ink drops are applied sequentially to the combined first and second ink drops without intermediate solidification of the first and subsequent ink drops
- ***regarding claims 3***, at least four ink drops are applied sequentially and wherein the first and subsequent ink drops are different colors

***Cleary et al discloses:***

- **regarding claim 2**, wherein subsequent ink drops are applied sequentially to the combined first and second ink drops without intermediate solidification of the first and subsequent ink drops (Column 4, Lines 12 – 51)

- **regarding claims 3**, at least four ink drops are applied sequentially and wherein the first and subsequent ink drops are different colors (Column 4, Lines 12 – 51)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Clearly into the device of Kashiwazaki , for the purpose of enabling printing of various colors such as process black

Claims 6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) in view of Onishi et al (U.S. Pub. 2001/0015745)

***Kashiwazaki does not disclose the following:***

- **regarding claims 6, 11**, wherein the viscosity of the first to the last ink drops applied varies in a graduated manner within a range of from 10 up to 30 mPas or a range of from 30 down to 10 mPas

***Onishi discloses:***

- **regarding claims 6, 11**, wherein the viscosity of the first to the last ink drops applied varies in a graduated manner within a range of from 10 up to 30 mPas or a range of from 30 down to 10 mPas (Paragraphs 0095-0096)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Onishi into the device of Kashiwazaki, for the purpose of assuring stable jetting from the head

Claims 7, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) in view of Kasperchik et al (U.S. Pat. 6,536,878)

***Kashiwazaki does not disclose the following:***

- ***regarding claims 7, 12***, wherein the surface tension of the first to the last ink drops applied varies in a graduated manner within a range of from 20 up to 40 dynes/cm or a range of from 40 down to 20 dynes/cm

***Kasperchik discloses:***

- ***regarding claims 7, 12***, wherein the surface tension of the first to the last ink drops applied varies in a graduated manner within a range of from 20 up to 40 dynes/cm or a range of from 40 down to 20 dynes/cm (Abstract; Column 15, Lines 13-20)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Kasperchik into the device of Kashiwazaki, for the purpose of performing the printing operation at a high rate of speed

Claims 8, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) in view of Lin et al (U.S. Pat. 5,531,818)

***Kashiwazaki does not disclose the following:***

- ***regarding claims 8, 13***, wherein the cure speed of the first to the last ink drops applied varies in a graduated manner within a range of from 20 up to 70 m/min or a range of from 70 down to 20 m/min

***Lin discloses:***

- ***regarding claims 8, 13***, wherein the cure speed of the first to the last ink drops applied varies in a graduated manner within a range of from 20 up to 70 m/min or a range of from 70 down to 20 m/min (Column 12, Lines 5-25)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Lin into the device of Kashiwazaki, for the purpose of avoiding ink smearing and intercolor bleeding

Claims 16, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) in view of Onishi et al (U.S. Pub. 2001/0015745)

***Kashiwazaki discloses:***

- ***regarding claims 16, 19***, progressive dot printing ink jet process comprising: applying a first ink drop to a substrate and subsequently applying a second ink drop on to the first ink drop without intermediate solidification of the first ink drop (Figures 10-13; Paragraphs 0123-0126).

***Kashiwazaki does not disclose the following:***

- **regarding claims 16, 19**, wherein the viscosity of the first to the last ink drops applied varies in a graduated manner within a range of from 10 up to 30 mPas or a range of from 30 down to 10 mPas

***Onishi discloses:***

- **regarding claims 16, 19**, wherein the viscosity of the first to the last ink drops applied varies in a graduated manner within a range of from 10 up to 30 mPas or a range of from 30 down to 10 mPas (Paragraphs 0095-0096)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Onishi into the device of Kashiwazaki, for the purpose of assuring stable jetting from the head

Claims 17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) in view of Kasperchik et al (U.S. Pat. 6,536,878)

***Kashiwazaki discloses:***

- **regarding claims 17, 20**, progressive dot printing ink jet process comprising: applying a first ink drop to a substrate and subsequently applying a second ink drop on to the first ink drop without intermediate solidification of the first ink drop (Figures 10-13; Paragraphs 0123-0126).

***Kashiwazki does not disclose the following:***



- **regarding claims 17, 20**, wherein a surface tension of the first to last ink drop applied varies in a graduated manner within a range of from 20 up to 40 dynes/cm to a range of from 40 down to 20 dynes/cm

***Kasperchik discloses:***

- **regarding claims 17, 20**, wherein a surface tension of the first to last ink drop applied varies in a graduated manner within a range of from 20 up to 40 dynes/cm to a range of from 40 down to 20 dynes/cm (Abstract; Column 15, Lines 13-20)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Kasperchik into the device of Kashiwazaki, for the purpose of performing the printing operation at a high rate of speed

Claims 18, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki et al (U.S. Pub. 2002/0041317) in view of Lin et al (U.S. Pat. 5,531,818)

***Kashiwazaki discloses:***

- **regarding claims 18, 21**, progressive dot printing ink jet process comprising: applying a first ink drop to a substrate and subsequently applying a second ink drop on to the first ink drop without intermediate solidification of the first ink drop (Figures 10-13; Paragraphs 0123-0126).

***Kashiwazaki does not disclose the following:***

- **regarding claims 18, 21**, wherein the cure speed of the first to the last ink drops applied varies in a graduated manner within a range of from 20 up to 70 m/min or a range of from 70 down to 20 m/min

***Lin discloses:***

- ***regarding claims 18, 21***, wherein the cure speed of the first to the last ink drops applied varies in a graduated manner within a range of from 20 up to 70 m/min or a range of from 70 down to 20 m/min (Column 12, Lines 5-25)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Lin into the device of Kashiwazki, for the purpose of avoiding ink smearing and intercolor bleeding

***Response to Arguments***

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON S. UHLENHAKKE whose telephone number is (571)272-5916. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JASON S UHLENHAKE/  
Examiner, Art Unit 2853  
March 6, 2008

/Julian D. Huffman/  
Primary Examiner, Art Unit 2853